

AMENDMENTS TO THE CLAIMS

The following is a listing of claims that replaces all prior versions, and listings, of claims in the application:

Claims 1-42 (Currently Cancelled).

43. (Currently Amended) A method of screening for ~~an~~ a test agent that alters microtubule ~~polymerization or depolymerization or~~ severing, said method comprising:

- a) providing:
 - i) labeled tubulin, wherein the label of said labeled tubulin is chosen from one or more of 4'-6-diamidino-2-phenylindole (DAPI), anilinonaphthalene sulfonate (ANS), bis-ANS (Bis-anilinonaphthalene sulfonate), N-phenyl-1-naphthylene (NPN), ruthenium red, cresol violet, and 4-(dicyanovinyl)julolidine (DCVJ); and
 - ii) a test agent;
- b) contacting said labeled tubulin with said test agent to produce contacted tubulin; and
- c) comparing the fluorescence intensity or pattern of said contacted tubulin with the fluorescence intensity or pattern of labeled tubulin that is not contacted with said test agent, wherein a difference in fluorescence pattern or intensity between the contacted and the not contacted tubulin indicates that said test agent alters microtubule ~~polymerization or depolymerization~~ severing.

44. (Currently Amended) The method of claim 43, wherein said labeled tubulin is in at least one ~~the~~ form chosen from of tubulin monomers, tubulin dimers, ~~or~~ and tubulin oligomers.

45. (Original) The method of claim 43, wherein said labeled tubulin is in the form of a microtubule.

46. (Original) The method of claim 45, wherein said microtubule is attached to a solid surface.

Claim 47 (Currently Cancelled).

48. (Currently Amended) The method of claim ~~47~~ 43, wherein said label is 4'-6-diamidino-2-phenylindole (DAPI).

49. (Original) The method of claim 46, wherein said microtubule is attached to said surface by binding with an agent selected from the group consisting of an inactivated microtubule motor protein, an avidin-biotin linkage, an anti-tubulin antibody, a microtubule binding protein (MAP), a polyarginine, a polyhistidine, and a polylysine.

50. (Currently Amended) The method of claim 43, wherein said contacting further comprises contacting said tubulin with a ~~microtubule depolymerizing protein or a microtubule severing protein~~.

51. (Currently Amended) The method of claim 50, wherein said ~~a microtubule severing protein or a microtubule depolymerizing protein~~ is selected from the group consisting of a katanin, and a p60 subunit of a katanin, ~~an XKCM1, and a OP18 polypeptide~~.

Claims 52-53 (Currently Cancelled).

54. (Original) The method of claim 52, wherein said p60 subunit is a polypeptide having the amino acid sequence of SEQ ID NO:1.

55. (Currently Amended) The method of claim 43, wherein said method is performed in an array where said array comprises a multiplicity of reaction mixtures. ~~each~~

~~reaction mixture comprising a distinct and distinguishable domain of said array~~, and wherein said steps are performed in each reaction mixture.

56. (Original) The method of claim 55, wherein said array comprises a microtitre plate.

57. (Original) The method of claim 55, wherein said array comprises at least 48 of said reaction mixtures.

58. (Currently Amended) The method of claim 55, wherein said test agent ~~one of~~ comprises a plurality of test agents and wherein each reaction mixture comprises one test agent of said plurality of test agents.

59. (Currently Amended) The method of claim 43, further comprising listing the test agents that alters microtubule ~~polymerization, depolymerization, or~~ severing into a database of therapeutic lead compounds that act on the cytoskeletal ~~system~~. system.